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(54) **ULTRASOUND OBSERVATION APPARATUS, METHOD FOR OPERATING ULTRASOUND OBSERVATION APPARATUS, AND COMPUTER-READABLE RECORDING MEDIUM**

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See application file for complete search history.

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(57) **ABSTRACT**

An ultrasound observation apparatus includes: a first generation unit that computes a received signal based on first and second echo signals obtained by transmitting ultrasound signals having different phases along a same line to a specimen and reflection of the ultrasound signals from the specimen, and generates a first ultrasound image having first display mode, using the received signal; an extraction unit that calculates first and second features based on frequency spectra of the first and second echo signals, and extracts a third feature from the first and second features so as to be associated with a pixel position in image; a second generation unit that generates a second ultrasound image having second display mode at a pixel position where the third feature is not less than threshold; and a composition unit that generates a composite image by combining the first and second ultrasound images at the pixel position.

11 Claims, 14 Drawing Sheets